specimens of the species have not been collected for over a century since its original description.

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20. SEXUAL DIMORPHISM IN A MARINE PERCH *POMADASYS MACULATUS* (BLOCH)

Sexual dimorphism is an important aspect of taxonomy and fisheries. This study deals with sexual dimorphism in *Pomadasys maculatus* (Bloch), a marine perch. Thobias (1974) worked out the sexual dimorphism in the filament barb *Puntius filamentosus* (Val.); Inasu (1993) that of a freshwater puffer fish *Tetraodon travancoricus* Hora and Nair; and Tessy and Inasu (1997) elucidated the sexual dimorphism of edible perch *Priacanthus hamrur* (Cuv. & Val.).

Day (1958) described the genus *Pristipoma* with nine species. Later the genus *Pristipoma* was renamed *Pomadasys* and four species of *Pomadasys* were described by W. Fischer (1974, F.A.O). Sexual dimorphism has not been studied in any of these species.

We collected about one hundred specimens of adult *Pomadasys maculatus* (Bloch) from January to December 1997 from Munampam, Trichur dist., Kerala. Total length, head length, caudal peduncle length, maximum width, inter-orbital space, diameter of the eye, and inter-nostril distance of 60 specimens were recorded separately. The specimens were preserved in 7% formaline.

Later, the body cavity of each specimen was cut open and the gonads were examined. 28 male specimens and 32 female specimens were sorted into two groups. Morphological differences between the sexes were studied and compared by selecting two fishes of identical size of the two sexes, with the assumption that they

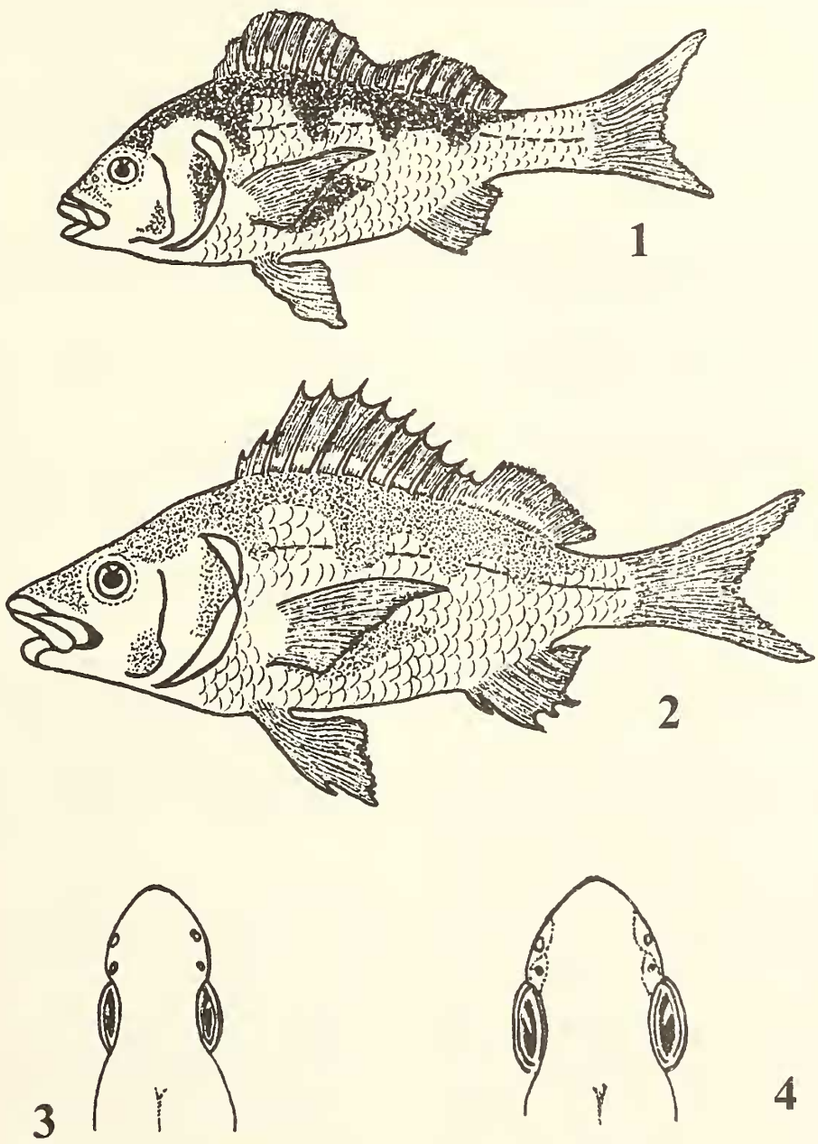
belonged to the same age group. They were caught from the same population. Diagrams indicating the sexual dimorphism in *Pomadasys maculatus* are provided (Figs. 1-4).

Clear sexual dimorphism is exhibited by *Pomadasys maculatus*. Females are larger than males of the same age group. The anterior dorsal part of the upper jaw in the female is broader than that in the male (Figs. 1 & 2). The width of the anterior rim of the opercle in female is broader than that in the male (Figs. 1 & 2). The inter-orbital space and eye diameter of the female is larger than the male (Figs. 3 & 4). The internostril gap in males is smaller than in females (Figs. 3 & 4). Dorsal fin in females is

TABLE I-A

SEXUAL DIMORPHISM - *POMADASYS MACULATUS* COMPARISON OF MORPHOLOGICAL FEATURES IN MALES AND FEMALES

Males		Females	
Ave. total length	15.56	Ave. total length	16.93
Ave. Head length	4.14	Ave. head length	4.77
Caudal Peduncle length	4.75	Caudal Peduncle length	5.17
Ave. inter-orbital space	1.14	Ave. inter-orbital space	1.46
Ave. eye diameter	1.01	Ave. eye diameter	1.303
Ave. internostril gap	1	Ave. internostril gap	1.03



Figs. 1-4: *Pomadasys maculatus* (Bloch)
1. Male; 2. Female; 3. Dorsal view of head, male; 4. Dorsal view of head, female

TABLE 1

COMPARATIVE STUDY ON MORPHOLOGICAL MEASUREMENTS OF *POMADASYS MACULUATUS*

	Pomadasys maculatus - male							*Pomadasys maculatus* - female							
Sl. No.	Total length	Head length	Caudal length	Width	Inter-orbital	Eye	Inter-nostril	Sl. No.	Total length	Head length	Caudal length	Width	Inter-orbital	Eye	Inter-nostril
1	15.8	4.0	4.4	4.5	1.1	1	1	1	15.5	4.4	4.8	5.0	1.5	2.0	1
2	15.5	3.8	4.2	4.2	1.1	1	0.9	2	14.6	4.1	4.3	4.7	1.4	1.2	1
3	17.2	4.7	5.4	5.0	1.1	1	1	3	15.4	4.4	4.9	5.0	1.5	1.3	1
4	16.6	4.8	5.1	5.2	1.1	1.1	1	4	16.0	4.9	5.1	5.2	1.5	1.3	1
5	15.8	4.3	4.8	4.9	1.1	0.9	1	5	13.5	3.9	4.2	4.5	1.4	1.2	1
6	14.8	4.2	4.7	4.8	1.2	1	1	6	13.0	3.8	4.0	4.4	1.4	3.3	1
7	14.6	4.2	4.8	4.9	1.1	1.1	1	7	17.0	5.0	5.2	5.4	1.4	1.3	1
8	15.0	4.3	4.8	5.0	1.1	1.1	1	8	14.0	4.0	4.2	4.2	1.4	1.2	1.1
9	13.8	3.4	4.1	4.3	1.0	0.9	1	9	14.5	4.1	4.4	4.7	1.4	1.3	1
10	12.7	3.6	4.4	4.5	1.1	1	1	10	15.8	4.5	4.9	4.5	1.4	1.3	1
11	12.9	3.8	4.2	4.3	1.1	1.1	1	11	16.3	4.7	5.0	5.1	1.5	1.3	1
12	12.5	3.5	4.2	4.3	1.1	1	1	12	14.0	4.0	4.3	4.7	1.3	1.2	1
13	12.4	3.3	3.6	3.8	1.1	1	0.9	13	15.2	4.5	4.8	5.0	1.4	1.2	1
14	10.4	3.0	3.4	3.8	1.0	0.9	1.0	14	18.5	5.2	5.7	6.0	1.5	1.4	1.1
15	13.0	3.4	3.5	3.7	1.1	1	0.9	15	17.4	5.1	5.6	5.8	1.5	1.3	1.1
16	16.5	4.4	5.8	5.5	1.4	0.9	1	16	17.0	5.0	5.4	5.5	1.5	1.3	1
17	13.3	3.6	3.7	3.8	1.1	1.0	1.0	17	19.0	5.0	5.7	6.2	1.4	1.3	1
18	15.2	3.7	4.1	4.1	1.1	1	1	18	19.5	5.1	5.7	6.1	1.5	1.4	1.1
19	16.1	4.0	5.2	4.9	1.2	1.0	0.9	19	17.6	4.3	5.0	5.3	1.5	1.3	1
20	16.8	4.1	5.3	5.2	1.2	1.1	1.1	20	18.5	5.2	5.4	6.1	1.4	1.3	1.1
21	16.0	4.0	4.6	4.5	1.2	1	1	21	17.8	5.1	5.4	5.6	1.5	1.3	1
22	19.6	5.3	5.2	5.3	1.3	1	1.1	22	17.3	5.0	5.3	5.5	1.5	1.3	1
23	17.5	4.8	5.4	5.2	1.1	1	1	23	19.8	6.1	6.3	7.4	1.5	1.3	1.1
24	19.3	4.8	6.1	5.7	1.3	1	1.1	24	18.5	5.2	5.5	6.2	1.6	1.4	1.1
25	19.8	5.3	5.8	5.8	1.4	1.1	1.1	25	18.2	4.8	5.6	5.8	1.6	1.4	1
26	18.3	4.7	5.4	5.2	1.2	1.1	1	26	17.5	5.1	5.4	5.8	1.4	1.3	1
27	16.2	4.0	5.2	4.9	1.1	1	1	27	16.5	5.0	5.2	5.5	1.5	1.3	1
28	18.0	5.0	5.6	5.8	1.1	1	1	28	18.8	4.9	5.3	5.9	1.5	1.3	1.1
29								29	19.4	5.2	6.2	6.1	1.5	1.4	1.1
30								30	18.5	5.1	5.5	5.8	1.4	1.3	1
31								31	18.0	4.8	5.5	5.8	1.4	1.4	1.1
32								32	19.6	5.2	5.7	6.2	1.5	1.4	1.1
Average	15.56	4.14	4.75	4.75	1.14	1.01	1	Average	16.93	4.77	5.17	5.46	1.46	1.303	1.03

more filamentous and protruding (Figs. 1 & 2). The black basal spot on the edge of the dorsal fin in male is more prominent than that in the female (Figs. 1 & 2). The black blotches on the sides of the body are clearer in males than in females (Figs. 1 & 2). Females dominate males in all morphological measurements (Table 1). A comparison between males and females of the same size also proved the dominance of the females in morphological characters.

Sexual dimorphism in fishes mainly follows two patterns. In some fishes, the males are larger and more ornamented than the females of the same age group. The aforestated pattern of sexual dimorphism was observed in puffer fish *Tetraodon travancoricus* (Hora and Nair) by Inasu (1973) and in the filament barb, *Puntius filamentosus* by Thobias (1974). But in marine perch *Pomadasys maculatus* (Bloch) females are larger than the males of the same age group. The same pattern of sexual dimorphism was also reported by Tessy and Inasu (1977) in *Priacanthus hamrur* (Cuv & Val), which is also a marine perch.

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21. AGGRESSIVE BEHAVIOUR OF *CHANNA STRIATUS*

On a sunny afternoon of November 24, 1996, we were watching birds at pool near Mourigram railway station (West Bengal). Most of the birds were busy collecting food from the water or among weeds.

We observed a little egret (*Egretta garzetta*) some 7 m away on a heap of *Eichhornia*, catching small fish fingerlings, tadpoles, insects etc. The bird was collecting its food from the same place at a few minutes intervals. The fingerlings caught by the bird were of *Channa striatus* (3-4 cm in length). Suddenly, a large *Channa striatus*, approximately 50 cm long, jumped out of the water and hit the leg of the egret. The bird, losing its balance, fell into the water. At first we thought that this was accidental. But within a few seconds, the bird sat at the same place again and caught another fingerling. This time too, the large *Channa striatus* suddenly jumped out from the water in the same manner and forcefully hit the egret with its tail on its lower left side. The bird was injured, lost its balance and fell some 30 cm away. After a few seconds, the bird flew off to a tree 100 m away and did not come down during the time we remained there (about 40 minutes).

The large *Channa striatus* was probably the parent of the fingerlings and the event